

March 18, 1996

FOR: The Commissioners  
 FROM: James M. Taylor /s/  
 Executive Director for Operations  
 SUBJECT: ACTIVITIES ASSOCIATED WITH THE IMPLEMENTATION OF 10 CFR PART 54

- PURPOSE:
- BACKGROUND:
- DISCUSSION:
  - Regulatory Guide Development and Industry Guideline Review Activities:
  - Industry Demonstration Program:
  - Baltimore Gas and Electric Company Activities:
  - Duke Power Company:
  - Babcock and Wilcox Owners Group Activities:
  - Westinghouse Owners Group Activities:
  - Boiling-Water Reactor Owners Group Activities:
  - Standard Review Plan for License Renewal Activities:
  - Inspection Guidance for License Renewal:
  - License Renewal Application Activities:
- COORDINATION:
- SUMMARY:

#### **PURPOSE:**

To inform the Commission of the status of the various activities associated with the implementation of 10 CFR Part 54 (the license renewal rule). The recent accomplishments and expected new activities are discussed.

#### **BACKGROUND:**

The amendment to 10 CFR Part 54 was published in the Federal Register on May 8, 1995 (60 FR 22461), and became effective June 7, 1995. Since then the NRC staff and the industry have initiated several activities associated with implementing the renewal rule. The staff informed the Commission of the activities associated with the development of the regulatory guide for the license renewal rule in SECY-95-228, "Development of the Regulatory Guide for the License Renewal Rule," dated September 8, 1995.

The staff's current and future activities include (1) developing a regulatory guide for preparing the renewal application, (2) reviewing an industry guidance document for implementing the requirements of the renewal rule that would be endorsed by the regulatory guide if found acceptable, (3) visiting sites to review an industry demonstration program that will help validate the industry guidance document, (4) conducting a public workshop during the comment period for the staff's regulatory guide, (5) reviewing plant-specific and owners group technical reports concerning specific structures and components for compliance with the renewal rule, (6) preparing a standard review plan for license renewal, (7) preparing inspection guidance for license renewal, and (8) reviewing license renewal applications.

#### **DISCUSSION:**

Following are discussions of the various activities associated with implementation of the renewal rule, including recent accomplishments and expected new activities.

#### **Regulatory Guide Development and Industry Guideline Review Activities:**

The staff has been implementing the approach discussed in SECY-95-228 for developing implementation guidance for the license renewal rule. The Nuclear Energy Institute (NEI) submitted the first version of the proposed guideline, "Industry Guideline for Implementing the Requirements of 10 CFR Part 54 - The License Renewal Rule," NEI 95-10, on August 18, 1995. The staff sent NEI a series of comments and requests for information and NEI responded by revising and resubmitting the guideline. Public working-level meetings have been held almost weekly since August 1995 to exchange information, request clarifications, and present views on topics. NRC, NEI, and utility senior managers met periodically to review progress in developing guidance and directed activities for resolution of significant issues. All documents exchanged between the staff and NEI are publicly available. Additionally, the public was given the opportunity to ask questions and present views at all meetings. Other opportunities for public involvement will be available when public comments are requested on the regulatory guide and a public workshop is held by the staff. The public workshop will include discussions on the staff's regulatory guide, the industry's guideline, and the staff's and industry's lessons-learned from the demonstration program (discussed below).

The staff's initial reviews of the guideline identified a number of significant issues, which required an additional 2 months to resolve. These issues are:

- Properly defining structure and component intended functions
- Establishing guidance for aging management programs that provide reasonable assurance that the effects of aging will be detected and corrective actions taken before structures or components lose their ability to perform their intended functions under current licensing basis (CLB) design basis conditions
- Determining how far existing technical specification surveillance tests and performance and condition monitoring programs can be credited as aging management programs for license renewal
- Establishing the conditions when new activities or inspections could be necessary to assess the effects of aging for the period of extended operation
- Determining when inspections or evaluations of time-limited aging analyses (TLAAs) must be performed to support issuance of a renewed operating license
- Establishing the elements of an acceptable aging management program and the level of detail with which they are to be described in the application.

Resolution of these issues was necessary to ensure that the staff's regulatory guide and the NEI guideline, when issued, provide a consistent and predictable process for applying for a renewed license. Despite the delay in schedule, this interaction has been positive and productive.

NEI submitted the final draft of the guideline on March 4, 1996. This revision (Revision 0) of the guideline is receiving a final review from the staff before endorsement in the draft regulatory guide with subsequent publication in the Federal Register for public comments. The Commission will receive both the staff's regulatory guide and the industry's guideline for review and approval before publication in the Federal Register. The projected schedule for completion of a regulatory guide that endorses the industry guideline is provided in [Attachment 1](#). This schedule reflects NEI's estimate that it will need until late October to finish the demonstration program, complete its lessons-learned report, and prepare for the public workshop.

#### **Industry Demonstration Program:**

To validate the industry guideline, NEI is implementing a license renewal demonstration program. This program will involve the seven volunteer plants listed in [Attachment 2](#). In the demonstration program, individual plants will use the industry guideline to (1) identify systems, structures, and components within the scope of the rule, (2) complete the integrated plant assessment (IPA) process by performing an aging management review of a few selected "long-lived," "passive" structures and components, (3) identify and evaluate TLAAs, and (4) list exemptions and justify the continuation of the exemptions for the extended period of operation, as required by the rule. The staff is planning site visits to obtain information that should assist in verifying the adequacy of the industry guideline for meeting the requirements of the renewal rule and to identify additions, deletions, and changes in the NEI guideline or the staff's draft regulatory guide. NEI estimates that the demonstration program will end in September and that another month will be necessary to prepare a lessons-learned document to be discussed at an October workshop.

#### **Baltimore Gas and Electric Company Activities:**

The Baltimore Gas and Electric (BGE) Company has continued its license-renewal-related activities for its Calvert Cliffs Units 1 and 2 plants in preparation for a potential decision about submittal of a license renewal application in 1997. The staff has completed a review of the BGE IPA methodology and issued a draft safety evaluation on February 7, 1996. The staff found BGE's methodology met the license renewal rule requirement to provide a methodology for determining structures and components subject to an aging management review. The staff also found BGE's process for performing aging management reviews on structures and components and for identifying TLAAs to be consistent with the intent of the rule.

With the completion of the IPA methodology, BGE intends in 1996 to submit 26 technical reports implementing the methodology. These technical reports will contain the specific aging management reviews and time-limited aging analyses evaluations for all Calvert Cliffs structures and components within the scope of the license renewal rule. These technical reports will present most of the technical information necessary for a license renewal application and, along with the results of the staff review, will aid BGE in its decision regarding whether to submit a license renewal application.

#### **Duke Power Company:**

The Duke Power Company (Duke Power) has also initiated license-renewal-related activities for its Oconee Nuclear Station, Units 1, 2, and 3. They also continue to be active in the Babcock and Wilcox Owners Group renewal activities, which are discussed below. Duke Power informed the staff by letter dated February 2, 1996, that it will submit technical information supporting a potential license renewal application in a series of six topical reports beginning in July 1996 and continuing through the first quarter of 1997. As with BGE, the results of the staff's review of these reports will aid Duke Power in deciding whether to submit a license renewal application.

#### **Babcock and Wilcox Owners Group Activities:**

The Babcock and Wilcox Owners Group (B&WOG) has continued its activities under the Generic License Renewal Program (GLRP) to provide generic guidance to member utilities regarding what aging management programs are necessary for selected structures and components for complying with the license renewal rule. The B&WOG has submitted aging management topical reports on the reactor coolant system (RCS) piping and the pressurizer that apply to all member utilities. The staff is also reviewing a topical report that attempts to justify an upper bound value for the initial reference temperature ( $IRT_{NDT}$ ) for all Linde 80 weld metals for B&WOG reactor vessels. An additional aging management topical report on the reactor vessel is expected to be submitted for staff review in June 1996. The B&WOG GLRP effort is designed to support the submittal of a license renewal application by a member utility in 1997.

The staff has completed its review of the B&WOG RCS piping topical report and issued a draft safety evaluation on October 18, 1995. This review represented the first aging management review using the amended rule. In general, the staff found that existing licensee programs were adequate to manage the effects of aging during the extended period of operation. In some instances the B&WOG proposed, and the staff found acceptable, several additional programs and activities that will need to be implemented as part of the aging management programs at specific plants to ensure the functionality of certain components for the extended period of operation.

The staff has begun reviewing the pressurizer topical report and has issued a request for additional information (RAI) to the B&WOG concerning this report. The B&WOG provided responses to this RAI on February 20, 1996, and the staff plans to issue a draft safety evaluation in June 1996.

#### **Westinghouse Owners Group Activities:**

The Westinghouse Owners Group (WOG) has developed a Generic Topical Report Program to assist its member utilities with the technical evaluations necessary for license renewal. Generic topical reports are developed using bounding evaluations and are designed to bound all Westinghouse plants. Each topical report will identify the potential aging effects for a component, structure, or groups of components, and describe the attributes a program needs to adequately manage the aging effects to ensure the intended functions of the structure or component will be maintained under current licensing basis design conditions. To date, the WOG has submitted one topical report on RCS supports. The staff completed its initial review of this report and sent the WOG an RAI. Currently, the WOG is preparing to submit a revision to the RCS supports report in March 1996. The WOG intends to submit eight other reports by June 1996. The other reports include the pressurizer, Class 1 piping, the reactor pressure vessel internals, containment, the reactor pressure vessel, Class 1 structures, the steam generator, and non-Class 1 structures and components.

#### **Boiling-Water Reactor Owners Group Activities:**

The Boiling-Water Reactor Owners Group (BWROG) has established a generic license renewal program to develop topical reports applicable to all boiling-water reactors. The topical reports will be based on a reference plant and will include an IPA and a TLAA evaluation for selected systems, structures, and components. Individual renewal applicants would then justify any differences from the reference plant. To date, the BWROG has submitted one topical report on the primary containment. The staff completed its initial review of this topical report, and by letter dated February 29, 1996, the staff sent BWROG an RAI. The BWROG also intends to submit three other reports by December 1996. The topics of the other reports include the reactor coolant pressure boundary, the reactor pressure vessel, and the reactor pressure vessel internals.

**Standard Review Plan for License Renewal Activities:**

A draft Standard Review Plan for License Renewal (SRP) reflecting the proposed rule was complete in December 1994. The initial draft SRP is currently being modified by the staff to reflect the amended rule. Following previous schedules, the staff still plans to complete and publish the revised draft standard review plan after completing the review of several license renewal applications.

**Inspection Guidance for License Renewal:**

The staff is working on the inspection guidance for license renewal as a lower priority task. The staff plans to complete the draft inspection guidance before completing the review of the first license renewal application.

**License Renewal Application Activities:**

Instead of submitting a renewal application with all the necessary technical reviews and analyses completed, the industry has focused on submitting plant-specific or owners group generic topical reports before submitting the formal renewal application. The staff performs a review to the requirements of the renewal rule and completes a safety evaluation report. This review and evaluation would be referenced by the actual application. It appears that this approach will provide a potential applicant with better information to evaluate the cost of plant operation beyond the current term of the license, including the cost of any additional aging management programs.

As stated above, BGE is submitting several topical reports to the staff for review. The topical reports will allow them to decide in 1997 whether to submit a renewal application. Duke Power will also begin submitting topical reports for review so that it will be in a position to decide in the near future whether to submit a renewal application. The B&WOG GLRP effort is expected to result in a license renewal application in 1997.

**COORDINATION:**

The Office of General Council has reviewed this paper and has no legal objection.

**SUMMARY:**

1. Public interactions between the staff and the industry on all renewal related activities have helped resolve significant implementation issues. However, the schedule for the regulatory guide and industry guideline has slipped about 2 months from that noted in SECY-95-228. This delay was due to the time spent resolving the six significant issues identified above.
2. Activities associated with implementation of the amended license renewal rule have been increasing since the amended rule was published, and it appears that an increase in the amount of technical review for license renewal activities will begin shortly. The extent to which existing aging management programs will need to be augmented for the extended period of operation will be determined during these reviews.
3. Submission of license renewal applications is expected to start in 1997 after technical reports addressing key structures and components have been submitted and the staff has conducted the technical reviews.
4. The staff will periodically inform the Commission of the status and progress made on the various implementation activities associated with license renewal.

James M. Taylor  
Executive Director for Operations

CONTACT: Steven A. Reynolds, NRR  
(301) 415-1115

- Attachments: 1. [Regulatory Guide/ Industry Guideline Schedule](#)  
2. [Demonstration Program Plant List](#)

**ESTIMATED SCHEDULE FOR MAJOR MILESTONES  
LICENSE RENEWAL RULE REGULATORY GUIDE AND  
INDUSTRY GUIDELINE DEVELOPMENT**

ACTIVITY REGULATORY GUIDE/GUIDELINE DEVELOPMENT	ACTIVITY DURATION (Weeks)	ELAPSED TIME (Weeks)
NEI submits draft industry guideline, Rev. 0, (DIG) resolving all staff comments		0
Submit Commission paper with proposed Fed. Reg. notice (FRN), draft regulatory guide (DRG), and DIG	16	16
Receive Commission SRM and resolve comments	6	22
Publish FRN requesting comments on the DRG and DIG	3	25
Public workshop	Late Oct. 96	35
90 day public comment period closes (1 month after workshop)		39
Resolve public comments, revise documents, and submit final RG (FRG) and NEI guideline (FIG) to Commission	25	64

Publish FRN on FRG and FIG	12	76
<b>DEMONSTRATION PROGRAM</b>		
NRC initiate demonstration program site visits after receipt of guideline Rev. 0		3
NRC complete site visits	22	25
NRC complete draft lessons-learned report	6	31

ATTACHMENT 2

### DEMONSTRATION PROGRAM PLANT LIST

VENDOR TYPE	PLANT NAME	UTILITY NAME
Combustion Engineering	Calvert Cliffs	Baltimore Gas & Electric
Babcock & Wilcox	Oconee	Duke Power
Westinghouse	Point Beach	Wisconsin Electric Power
	North Anna/Surry	Virginia Power
	Oyster Creek	GPU Nuclear Corp.
General Electric	Peach Bottom	PECO Energy
	Edwin I. Hatch	Southern Nuclear Operating Co.